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PATENT APPLICATION

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TC 2800 MAIL ROOM
IN THE

UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): David D. Bohn

Confirmation No.:

Application No.: 09/220,736

Examiner: T.X. Luu

Filing Date: 12-23-1998

Group Art Unit: 2878

Title: OPTICAL SYSTEM FOR COMPENSATING FOR NON-UNIFORM ILLUMINATION OF AN OBJECT

COMMISSIONER FOR PATENTS

Washington, D.C. 20231

TRANSMITTAL OF REPLY BRIEF

Sir:

Transmitted herewith in *triplicate* is the Reply Brief with respect to the Examiner's Answer mailed on 10-31-2001. This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new grounds of rejection.)

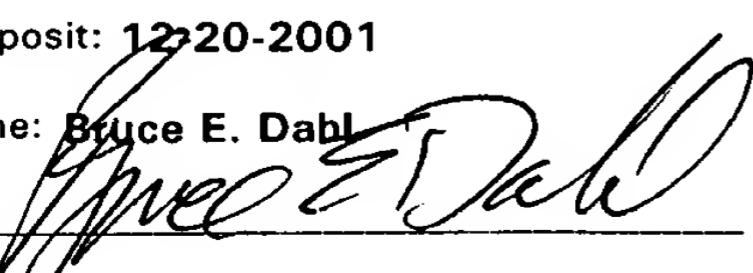
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Date of Deposit: 12-20-2001

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Respectfully submitted,

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By



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#16/Reply Brief
1/29/02
C. McKinney

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



In the Application of:

BOHN, David, D.

Serial No. 09/220,736

Filing Date: December 23, 1998

For: OPTICAL SYSTEM FOR COMPENSATING
FOR NON-UNIFORM ILLUMINATION OF AN
OBJECT

) Examiner: Luu, T.X.

) Group Art Unit: 2878

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APPELLANT'S REPLY BRIEF

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JAN 28 2002
U.S. MAIL ROOM

To: The Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

This Reply Brief is submitted in response to the Examiner's Answer, paper number 15, dated October 31, 2001.

RESPONSE TO EXAMINER'S ANSWER

Procedural Issues:

In section 6 of the examiner's answer, the examiner withdrew his rejections of claims 1-3 and 7-9 under 35 U.S.C. §102(b) as being anticipated by Matsunami and of claims 4-6 and 10-17 under 35 U.S.C. §103(a) as being obvious over Matsunami. The issues remaining are: (a) whether the rejection of claims 1-3 and 7-9 under Section 102(b) as being anticipated by Thomson is proper; and (b) whether the rejection of claims 4-6 and 10-17 under Section 103(a) as being obvious over Thomson is proper.

In section 7, the examiner confirmed that appellant's brief includes a statement that claims 1-17 do not stand for fall together and that appellant's brief met the requirements of 37 C.F.R. 1.192(c)(7) and (c)(8).

Patentability Issues:

Turning now to the first issue, that is, whether claims 1-3 and 7-9 are unpatentable under Section 102(b) as being anticipated by Thomson, appellant notes that the examiner's arguments set forth on pages 4 and 5 of the examiner's answer are based on an incorrect interpretation of the Thomson reference.

First, and with reference to claim 1, the examiner argues that Thomson's element 10 meets the requirements of the illuminated object recited in claim 1. This is incorrect. Thomson's element 10 is a light source, not an illuminated object. See, for example, col. 2, lines 62 and 63: "The present invention employs a lamp 10 as a source of radiation. . ." Thomson's light source 10 is used to illuminate a "retro-reflective object 24" (col. 3, line 28 of Thomson). This erroneous characterization of Thomson's light source 10 as equivalent to the illuminated object recited in the currently pending claims allows the examiner to later argue that certain other elements disclosed in Thomson meet the limitations of the currently pending claims when, in fact, they do not. However, before proceeding to discuss the specific elements and limitations that are not met by the Thomson reference, appellant first addresses some problems inherent in the examiner's erroneous characterization of Thompson's light source 10 as the illuminated object.

The preamble of claim 1, which is representative of the preambles of the appellant's various independent claims, refers to "an optical system for forming an image of at least a portion of an illuminated area on an object, the illuminated area being characterized by at least one brightly illuminated region and at least one less brightly illuminated region." While the preambles of the various claims are not elements of their respective claims, they do serve to place into context the elements of the claims and how those elements function. For example, with respect to claim 1, the illuminated object is characterized as having a brightly illuminated region and a less-brightly illuminated region. This provides an antecedent basis for the location of the occluding element later recited in the claim which is positioned to block light from the brightly illuminated region but not from the less-brightly illuminated region. Simply stated, the optical system of the present invention helps to compensate for the unevenly

illuminated object.

With reference now to the Thomson patent, Thomson's light source 10 is used to illuminate the retro-reflective surface 24 shown in Thomson's Figure 1. Significantly, Thomson's device does not form an image of the light source 10. Moreover, Thomson mentions nothing about the retro-reflective surface 24 being unevenly illuminated. These differences are key in determining the validity of the examiner's anticipation and obviousness rejections under Sections 102 and 103.

For example, the only way the examiner can argue that Thomson meets the elements and limitations of the currently pending claims, thus support his anticipation rejections, is to erroneously assume that Thomson's light source 10 is really the illuminated object. Only then can the examiner argue that Thomson meets the limitation that requires the occluding element to be positioned between the lens and the illuminated object. However, even if this erroneous assumption is regarded as correct, which it is not, Thomson still does not meet the limitations the claims which require that the occluding element block light from the brightly illuminated region but not from the less-brightly illuminated region. Thomson does not disclose or suggest that his light source 10 even has brightly and less-brightly illuminated regions.

Even under a proper interpretation, Thomson still fails to anticipate each and every element of claims 1-3 and 7-9 because Thomson's reflecting member 20, which serves to block or prevent light from the light source 10 from directly entering the detector 16, is not positioned "between the lens and the illuminated area on the object" as required by the claims. Again, Thomson's light source 10 is not an illuminated object. Thomson's illuminated object is the retro-reflective surface 24. Because Thomson's reflecting member 20 is not positioned between the lens 14 and the retro-reflective surface 24, Thomson cannot anticipate claim 1 and the claims depending therefrom.

Appellant makes the same points with regard to claim 8. That is, the examiner has improperly characterized Thomson's light source 10 as the illuminated object. Thomson's light source 10 is just that, a light source. The retro-reflective surface 24, which is illuminated by Thomson's light source 10, is what should be considered as corresponding to the illuminated object set forth in the claims. However,

nowhere does Thomson state, nor does appellant admit, that Thomson's retro-reflective surface 24 is characterized by a brightly illuminated region and a less-brightly illuminated region. Claim 8 requires an "occluding means" to be positioned between the "lens means" and the object. Since Thomson's mirror 20 is not positioned between Thomson's lens 14 and the retro-reflective surface 24, Thomson cannot anticipate claim 8 as a matter of law.

Thomson also fails to meet the limitations of method claim 9 which requires the step of "blocking a predetermined amount of light from the brightly illuminated region before the light . . . is refracted by the lens." Here again, since Thomson's light source 10 is not an illuminated object, the mirror 20 cannot block light before it is refracted by the lens 14. To the contrary, in Thomson, the mirror 20 is used to reflect light from the retro-reflective surface 24 after it is refracted by the lens 14. Since Thomson does not meet each and every limitation of claim 9, Thomson cannot anticipate claim 9.

Turning now to the second issue, i.e., whether claims 4-6 and 10-17 are obvious over Thomson, Thomson fails to provide the suggestion or incentive required to modify Thomson in the manner urged by the examiner. First, the examiner has improperly characterized Thomson's light source 10 as the illuminated area on an object. Therefore, the examiner argues that Thomson teaches things that it does not. Even if it were to be assumed (erroneously) that Thomson's light source 10 is the illuminated object, then the Thomson reference would certainly fail to provide any suggestion or incentive because Thomson nowhere discloses or suggests that his light source is unevenly illuminated or even that the retro-reflective surface 24 is unevenly illuminated. As a result, there is no need in Thomson, thus no suggestion or incentive, to compensate for the uneven illumination of anything. All Thomson teaches is how to prevent light from the coaxial light source 10 from reaching the detector 16.

Even under a proper interpretation of Thomson, Thomson still fails to make obvious any of the currently pending claims because Thomson's occluding element (i.e., the mirror 20) is not positioned between the lens and the object, as specifically required by the appellant's claims. Instead, in Thomson, the lens 14 is positioned between the mirror 20 and the retro-reflective surface 24. Moreover, since Thomson nowhere discusses that the retro-reflective surface 24 might be unevenly illuminated (i.e.,

having a brightly illuminated region and a less-brightly illuminated region), Thomson cannot be said to provide any suggestion or incentive for positioning his mirror 20 to block light from the brightly illuminated region but not from the less-brightly illuminated region, as is specifically required by the occluding element of the currently pending claims. Again, in Thomson there is no need, thus no suggestion or incentive, to block light from a brightly illuminated region to prevent it from reaching the detector.

In arguing his rejections of claims 4-6 and 13-15, the examiner indicates that Thomson teaches that the reflecting member 20 could be provided separately from the lens 14. Even if this is true, Thomson still cannot be regarded as providing the required suggestion or incentive to position the mirror 20 between the lens and the illuminated object because Thomson is not concerned with blocking any light from the retro-reflective surface 24. To the contrary, Thomson is concerned with blocking light from the light source 10. Accordingly, a person having ordinary skill in the art would not see Thomson as providing any suggestion or incentive to modify Thomson to relocate the mirror 20 in order to selectively block light from a brightly illuminated region on an object, but not from a less-brightly illuminated region.

CONCLUSION

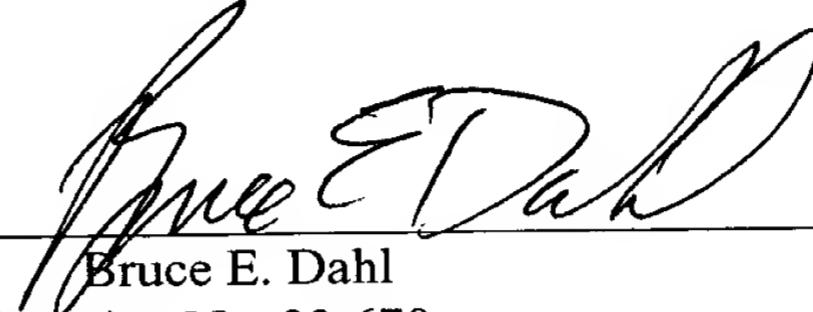
Thomson does not disclose an occluding element positioned between the lens and the illuminated area on the object so that the occluding element blocks a predetermined amount of light from a brightly illuminated region on the object but does not substantially block light from a less-brightly illuminated region on the object. Thomson also fails to provide any suggestion or incentive to modify his device in any manner since Thomson nowhere discusses that his retro-reflective surface 24 is unevenly illuminated, much less discusses (or even recognizes) the problems associated with an unevenly-illuminated object. Stated another way, in Thomson there is no need, thus no suggestion or incentive, to compensate for an unevenly-illuminated object. Accordingly, the examiner's rejections of the claims

under Sections 102 and 103 are improper and must be reversed.

Respectfully submitted,

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Date: 12-20-01